Do Not Fold, Spindle Or Mutilate: A Cultural History Of The Punch Card

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Introduction

One hundred years have passed since Herman Hollerith invented the punch card as a way of tabulating the 1890 census. That's also, almost exactly, the lifespan of the technology. Punch cards are almost completely gone from public view. With only a few exception, the last few businesses that still use punch cards are phasing them out, replacing punch card systems with computers, optical scanners, and magnetic storage media.

But punch cards live on, in a very curious way. One aspect of the era of the punch card has invaded the national subconscious; they've left us one ironic cultural legacy. We remember the punch card era in the phrase "do not fold, spindle, or mutilate." The phrase, and the feelings it represents, have outlasted the technology--not to mention the billions of cards on which it was printed. The cultural manifestations of technologies often outlast their material manifestations (Consider the many expressions based on outdated transportation technologies: "copper-bottom guarantee"--a reminder of the copper sheathing on wooden ship's hulls--or "under steam.") Culture changes more slowly than technology.

This cultural legacy is an important vestige of the Hollerith machine. Symbols are composed of equal parts reality and mental image, and so they capture attitudes, feelings, and beliefs--immaterial things sometimes hard to find in the historic record. The phrase "do not fold, spindle or mutilate" has stuck so in our heads because it captures a significant facet of American belief about automation, computerization, and bureaucratic society. The history of the phrase can help to explain popular reaction to the computerization of American business and society.

Early History

We have the Census Bureau to thank for the first use of punch cards. Though the machines attracted some attention, for their complexity, the public never saw the cards; they were punched from the traditional written reports of census enumerators. Hollerith machines soon found wider use in offices both public and private. The government used hundreds of machines during World War I. The army used them to keep inventory and medical and psychological records, and the War Industries Board, which controlled much of the economy during the war, did its accounting on the machines.

But even more than the government, businesses used punchcards to keep track of business. The period after 1890 was one of enormous growth in the American economy, and businesses changed their internal accounting procedures and inventory techniques to keep up with the changes. Railroads, for example, kept track of operating expenses, the location of rolling stock and goods in shipment at first with complicated systems of paperwork, and, starting about 1906, with punchcard tabulating machines. Insurance companies were not far behind: the Aetna Life and Casualty company used Hollerith machines to compile mortality data starting in 1910. The machinery found great favor with management: using language that we wouldn't be surprised to find in a modern-day report on computerization, one author wrote in 1926:

Punch card systems are a proved means of economically producing facts and figures vital to operating a railroad intelligently, from which business records can be quickly and accurately classified and presented to the executives at the time they are needed in the form best suited to enable action.

Punch card machines were modern and efficient--what we'd call today "high tech." It's easy to see how they came to represent, to stand for, all that was up to date and businesslike.

These early punch cards had no warning written on them. The cards Hollerith used for the first automated Census in 1890 were completely blank, unreadable except to machines. (Either an attempt to save money, or a piece of bravado, that; but Census clerks soon learned to decipher the holes almost as quickly as the machines could.) In only a few years cards had a variety of symbols on them, to indicate the meanings of the holes, but it was not until the 1930s that the first warnings appeared. This is, as far as I can tell, exactly the same time that the public began to see punch cards. The two events are, of course, related; the public needed to be taught how to deal with the new technology. They had to be taught to respect it, and not to get in its way.

Punch cards go public

Among the earliest cards to "go public" were those used by New Deal agencies. New Dealers, drawing on the successful World War I experience in mobilizing and directing the economy, put punch card machinery to wide use. The first "punch card checks"--among the first punch cards to be distributed to the "end user," the man and woman in the street--were issued by the Agricultural Adjustment Administration in 1933. Social Security checks, issued starting in 1936, were also punch cards, and before long, from World War II until just a short while ago, all federal checks were punch cards. The public's first introduction to punch cards was in connection with the introduction of the biggest and best publicized--and perhaps most controversial--new bureaucracies. The technology was still exotic, though; the New Yorker ran a story in 1940 that mentioned the crowds gathered in front of an office-supply store in Albany to watch punch-card sorting machines in action.

Card punch technology became more widespread in the 1940s. Libraries began to use punch cards to keep track of books. Police departments used them to track criminals. Their use in payroll and factory management expanded. Newspapers and magazines ran popular articles on the technology. Almost all of the description focused on the machines themselves, reporters outdoing one another with metaphors for the technology's utility. The Saturday Evening Post referred to the Los Angeles Police Department's Hollerith machine as "a mechanical Sherlock Holmes," a "crime-hating robot," "The Detective Who Never Sleeps." The 1940 Census starred in a Colliers Magazine article that called the punch card machine a "statistical sausage grinder," "the most amazing fortunetelling machines ever devised."

But it was in the 1950s, after the invention of the computer and its widespread business use, that everyone began to see punch cards. Companies sent punch cards out with bills: the telephone company, utility companies, and even department stores realized that they could save a step in their billing process, as well as making it easier for them to process the returned check, by using the cards themselves as the bills. By the 1960s, punch cards were familiar, everyday objects.

While company employees could be trusted to take care of the cards, the person in the street could not. Warnings were necessary. In the 1930s the University of Iowa used cards for student registration; on each card was printed "Do not fold or bend this card." Cards reproduced in an IBM sales brochure

of the 1930s read "Do not fold, tear, or mutilate this card" and "Do not fold tear or destroy." I'm not sure when the canonical "Do not fold, spindle, or mutilate" first appeared; it's one of those traditions whose author and origin is lost in the mists of time. Let's consider the words one at a time, stop and take them seriously.

"Do not fold, spindle, or mutilate." Folding seems clear; you might fold a card to fit in an envelope, or a pocket. But you're not supposed crease these cards; that would jam the machine. Punch cards aren't to be used in your ways, for your purposes, but for those of the company that issued them. "Spindle" is the word that most confuses people today. Spindling is an old filing system; a clerk would have a spindle, an upright spike on his or her desk, and would impale each piece of paper on it as he or she finished with it. When the spindle was full, you'd run a piece of string through the holes, tie up the bundle, and ship it off to the archives. (The custom still survives in some restaurants; the cashier spindles the bills as customers pay.) But you shouldn't spindle the cards: they are part of someone else's system of paperwork, not your own; they demand special attention.

"Mutilate" is a lot stronger than the other words. It expresses an angry intention on the part of the mutilator, or, from the viewpoint of the punch card user, a fear; people might take out their frustrations on their punch cards.... (Indeed, punch cards were mutilated: users could buy machines advertised to "recondition mutilated punch cards.") Why would people mutilate punch cards? Punch cards were the interface between the public and the billing system. Metaphorically, they were where the person meshed with the corporate world. They became symbolic of the whole system. Earlier, it was the machines that were the focus of attention; in the 1960s the cards took center stage.

The '60s

Punch cards became not only a symbol for the computer, but a symbol of alienation. They stood for abstraction, oversimplification, and dehumanization. The cards were, it seemed, a two-dimensional portrait of people, people abstracted into numbers that machines could use. The cards came to represent a society where it seemed that machines had become more important than people, where people had to change their ways to suit the machines. People weren't dealing with each other face to face, but rather through the medium of the punch card. All of the free-floating anxiety about technology, the information society, "Big Brotherism," and automation attached themselves to punch cards. Examining the metaphorical ways in which punch cards were used lets us understand some of the reaction and resistence to the brave new information world.

The first place that "do not fold, spindle or mutilate" was taken off the punch card and unpacked in all its metaphorical glory was the student protests at the University of California-Berkeley in the mid-1960s--the "Free Speech movement." The University of California administration used punch cards for class registration. Berkeley protestors used punch cards as metaphor, both as a symbol of the "system"--first the registration system and then bureaucratic systems more generally--and as a symbol of alienation. The Berkeley student newspaper recognized their symbolic importance when it put the punch card at the top of the list of student lessons: "The incoming freshman has much to learn" the paper editorialized to new students in Fall 1965, "perhaps lesson number one is not to fold, spindle, or mutilate his IBM card." The punch card stood for the university, and, of course, students had begun to fold, spindle, and mutilate them.

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The Berkeley Free Speech movement had its start in late 1964 when students were prohibited from raising funds for political causes on campus. It was opposed to what it saw as the increasing conformity and alienation of American society and, more specifically, to the pro-business policies of the University of California's president, Clark Kerr. Mario Savio, a leader of the Free Speech Movement, wrote that the main internal reasons for the revolt derive primarily from the style of the factory-like mass miseducation of which Clark Kerr is the leading ideologist. There are many impersonal universities in America; there is probably none more impersonal in its treatment of students than the University of California.

Opposition to the bureaucratic organization, standardization and automation of the university, and by extension, modern industrial society, were central themes of the protestors' philosophy. In the most famous speech of the movement, Mario Savio used a memorable technological metaphor:

There's a time when the operation of the machine becomes so odious, it makes you so sick at heart, that...you've got to put your bodies upon the gears and upon wheels...and you've got to make it stop. And you've got to indicate to the people who run it, to the people who own it, that unless you're free, the machine will be prevented from working at all.

Savio's speech is famous, but few have realized that "the machine" he had in mind was not merely a mechanical metaphor for society; it was, at least as much, a metaphor for information technology.

Berkeley students were well aware of the standard 1960s notion that the United States had become an "organizational society." They believed, with most of the popular sociological writers of the day, that "the shape and tone of our society, indeed the very way we think is dependent upon the products and information processed by large organizations" The university, wrote one student, was "a bureaucratic machine." Another called it a "knowledge factory": "mass production; no deviations from the norms are tolerated." The "information machine" metaphor was made explicit in Hal Draper's history of the Free Speech Movement. Draper, a participant in the movement, wrote that the student in the "mass university of today" feels that it is "an overpowering, over-towering, impersonal, alien machine in which he is nothing but a cog going through pre-programmed motions--the `IBM' syndrome." Punch cards were the symbol of information machines, and so they became the symbolic point of attack.

Punch cards, used for class registration, were first and foremost a symbol of uniformity. Mario Savio wrote that individuals were processed by the university, emerging as IBM cards with degrees. A student editorial suggested that the inflexibility of the bureaucracy and the impersonal grading system" might make a student feel "he is one out of 27,500 IBM cards in the registrar's office. The president of the Undergraduate Association criticized the University as "a machine...an IBM pattern of education." A cartoon from a flyer printed by Berkeley's W.E.B. DuBois club showed the university as a card punch machine run by big business, its product students as identical to one another as IBM cards. It took a professor of sociology, Robert Blaumer, to explicate the symbolism: he referred to the "sense of impersonality...symbolized by the IBM technology.

By extension, punch cards also came to represent the students themselves. (After all, that was, in the students' eyes, the way the University saw them.) In part, this was an attempt to claim the authority that had been invested in the punch card. Punch cards were, after all, the visible part of the bureaucratic system, which held power at the university. People deserved at least the same rights as punch cards. One student at Berkeley pinned a sign to his chest: "I am a UC student. Please don't bend, fold, spindle or mutilate me." The punch card, its protection by the Establishment guaranteed by the words printed on it, became an ironic model for emulation. But the metaphor of the punch card cut both ways. An editorial welcoming new students to the university in 1964 suggested that there was small chance of surviving Registration without being "torn, mutilated or spindled by an IBM machine." At least one student felt she had failed: she complained, after registration, "I feel like a small number stamped on a computer card."

Because the punch card symbolically represented the power of the university, it made a suitable point of attack. Some students used the punch cards in subversive ways. An underground newspaper reported:

Some ingenious people (where did they get this arcane knowledge? Isn't this part of the Mysteries belonging to Administration?) got hold of a number of blank IBM cards, and gimmicked the card-puncher till it spoke no mechanical language, but with its little slots wrote on the cards simple letters: "FSM", "STRIKE" and so on. A symbol, maybe: the rebels are better at making the machine talk sense than its owners.

Students wore these punch cards like name tags. Another form of technological subversion was for students to punch their own cards, and slip them in along with the official ones:

Some joker among the campus eggheads fed a string of obscenities into one of Cal's biggest and best computers--with the result that the lists of new students in various classes just can NOT be read in mixed company.

These pranks were the subversion of the technician. The students were indicating their ability to control the machines, and thus, symbolically, the machinery of the university. But it also indicates, like the students' and administrations' shared use of the machine metaphor, something of the degree of convergence of student and administration beliefs and methods. This sort of metaphorical technical subversion rarely rises above the level of prank.

Perhaps more radical, or at least with less confused symbolism, were students who destroyed punch cards in symbolic protest: the punch cards that the university used for class registration stood for all that was wrong with the university, and by extension, America. Students at Berkeley and other University of California branches burned their registration punch cards in anti-University protests just as they burned draft cards in anti-Vietnem protests.

The alienation symbolized by punch cards at Berkeley was an aspect of a broader feeling of alienation, the "depersonalization" of being treated like a number, not an individual. This reaction to the demands of information processing technology can be found back at least as far as the

introduction of serial numbers for prisoners and members of the military, and of Social Security numbers. The prisoner who loses his name and becomes "just a number" is a staple of country music and prison blues songs. These earlier precedents no doubt influenced reaction to the introduction of social security numbers: a cartoon shows Uncle Sam insisting that a citizen give his number when asked for his name. The impersonality of identification numbers became a staple of 1960s counterculture: Phil Ochs sang "You've given me a number and you've taken off my name." The same feeling reached into popular culture: Prisoner Number 6 on the TV show The Prisoner repeated: "I am not a number; I am a person." He summarized his stand against the "system" by saying, in the first episode: "I will not be pushed, filed, stamped, indexed, briefed, debriefed, or numbered. My life is my own."

The depersonalization of the punch-card era found its catch phrase in the words on the cards; its ubiquity gave it instant familiarity. One observer of the period wrote that marijuana, the '60s escape from the rigors of the real world, let you see "the strangeness of real unfolded-unspindled-unmutilated life." "Do not fold, spindle, or mutilate" became shorthand for a whole realm of countercultural experience. The ecological movement of the early 1970s, a child of the 1960s counterculture, picked it up too: a popular poster for Earth Day 1970 showed a picture of the Earth taken from space with the legend "Do not fold, spindle, or mutilate."

Punch cards as symbols found their way into everyday use by people well outside the counterculture. A murder mystery from 1970 was titled Do Not Fold Spindle or Mutilate apparently because its publishers thought it would sell books: the only punch-card related part of the story is a mention of computer dating. A book of advice to parents about their children was not only entitled Do Not Fold Staple or Mutilate! but was even shaped like a punch card, complete with the top left hand corner chopped off! Stan Rogers summed up white-collar work in his "White Collar Holler": "No one goin' fold, bend or mutilate me."

When punch cards moved beyond the counterculture they took with them their peculiar juxtaposition of contradictory symbolism. They symbolized modern computer civilization, but also a notion of reaction against the "IBM culture." Consider a birthday greeting card from 1968. The front shows a punch card punched with large holes in the shape of candles; inside, the greeting reads " That's I.B.M. for happy birthday!". Punching holes in the card is subversive; everyone knows that you're not supposed to do that. Consider also the short-lived tradition of using punch cards as Christmas tree ornaments, or even, combined together, as Christmas trees! They show the acceptance of the prime symbol of computerized bureaucracy, the welcoming of it into the home. But the cards are being subverted to uses beyond those allowed by the companies who issued them; there's an undercurrent of disobedience in the popular use--more accurately, misuse--of punch cards.

The same ambiguity can be seen in the ways that images of the punch card were used in advertisements for one of the more peculiar fads of the sixties, computer dating.. The punch card became the symbol of the modernity of that process. But the punch cards pictured in ads for computer dating services are always changed a little bit. One advertisement for computer dating showed Cupid holding a punch card, with his arrow shot through it; another showed fashionably dressed young men and women overlaid on a punch card. These ads, by blatantly mutilating the punch cards, suggest

that the people behind the cards are more important than the cards, and that the computer behind the cards isn't to be taken too seriously.

Across the Atlantic, punch cards had a completely different career--one in which punch cards became a much more serious symbol of oppression. Germany, like the United States, used punch cards in the censuses. The German censuses of 1930 and 1940, though, were rather more terrifying than the American ones--especially for Jews or Gypsies who were asked to provide their religion or national origin. The Nazis were superb record keepers, and punch cards were the best technology for keeping records. According to testimony at the Nuremburg War Crimes trials, one of the first things that arriving prisoners at the death camp at Treblinka saw was a clerk sitting at a Hollerith machine, punching cards to keep track of prisoners.

The story of punched-card record keeping by the Nazis was lost, or largely forgotten, until the 1960s and 1970s, when there was an enormous backlash against against census-taking and record keeping in Germany and Holland. "Do not fold, spindle, or mutilate" never became a slogan there, and the reaction against punch cards was not merely against the bureacracy and anonymity they represented, but, more seriously, against the power of the state that stood behind them.

Conclusion

And now we are at the end of the punch card era. The punch cards have disappeared, and all that's left are the words, the slogan.[46] Is there a moral here? I think that there is. Culture outlasts technology; the human reaction to machines can last longer than the machines. The punch card--or more accurately, the words on the punch card--became a convenient metaphor for all that people disliked about the computer and computerized big business and government: its narrow focus on easily quantized details; its refusal to deal with customers or citizens as people rather than bundles of information; its inclination to abstract, mechanize, and computerize; to worry, at best, about the "human interface" and not the human.

Understanding the strength of the cultural legacy of "Do not fold, spindle, or mutilate" can help us understand the reaction to computerization. Symbols are important, and the survival of these few words as a part of popular culture suggests the depth of ambiguity about computerized progress.

Notes

[*]An earlier version of this paper was presented to the Bureau of the Census's Hollerith Machine Centennial Celebration, June 20, 1990. My thanks to Lori Mann for research assistance.

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[1]On the earliest use of the punch card by the U.S. Census Office, see Keith S. Reid-Green, "The History of Census Tabulation," Scientific American, 260 (February, 1989), pp. 98-103 and Geoffrey D. Austrian, Herman Hollerith, Forgotten Giant of Information Processing (New York: Columbia University Press), Punch cards have found a niche in a few places where it seems they'll remain for a while, for example, in voting for All-Star teams at baseball games.

[2]M. Campbell-Kelly, "Punched Card Machinery," in Computing before Computers. p. 144. Also conversation with Jim Cortata.

[3]Arthur L. Norberg, "High-Technology Calculation in the Early 20th Century: Punched Card Machinery in Business and Government," Technology and Culture 31 (October 1990), pp. 766-767. The quote is from "Railway Accounting with Punch Cards, " Railway Review 79 (September 4, 1926): 353-54, quoted therein.

[4]Austrian, Herman Hollerith, p. 63.

[5]E.F. Bartlet, Accounting Procedures of the US Government (Washington: Public Administration Service, Chicago, 1940), p. 29; James Beninger, The Control Revolution:Technological and Economic Origins of the Information Society (Cambridge: Harvard University Press, 1986), p. 409. On the end of the punch card era, see James Schwartz, "Goodbye, Punch Cards; Treasury Begins Conversion to More Secure Paper Checks," Washington Post, December 3, 1985, p. A17. In 1985 the Treasury Department issued 600 million punch card checks.

[6]Angelica Gibbs, "Punch With Care," The New Yorker, Feb. 17, 1940, p. 54ff.

[7]The first experimental system was installed in the Montclair, N. J. Public Library by IBM in 1941. "Automatic Book Charging," Library Journal vol. 66, September 15, 1941. See also Dorothy Waugh, "Business Machines in the Public Library, Wilson Library Bulletin, January 1942, pp. 366-367.

[8]Keith Monroe, "The Detective Who Never Sleeps," Saturday Evening Post, Oct. 10, 1953. The St Louis police department was the first to use punched cards for to identify criminals, in 1947. (Joseph P. Soraghan, "Modern Equipment for St. Louis Police," The American City, February 1949.

[9]Amram Scheinfeld, "It's in the cards," Collier's Magazine, May 20, 1944, p. 18.

[10]See, for example, the many articles in Data Processing Annual: Punched Card and Computer Applications and Reference Guide (Detroit: Gille Associates, 1961-64).

[11]G. W. Baehne, Practical Applications of the Punched Card Method in Colleges and Universities (NY: Columbia University Press, 1935) p. 32.

[12]"Modern Machine Accounting for the Manufacturer," (n.d, n.p.), pp. 6 and 4. In the collection of the Division of Computers, Information, and Society, National Museum of American History.

[13]Advertisement for the Cummins Carditioner, Cummins-Chicago Corporation, Data Processing Annual: Punched Card and Computer Applications and Reference Guide (Detroit: Gille Associates, 1961), p. 45.

[14]Robert MacBride, The Automated State; Computer Systems as a New Force in Society (Philadelphia: Chilton Book Co., 1967), p.24.

[15]See George Terbourgh, The Automation Hysteria (Washington, D.C.: Machinery and Allied Products Institute and Council for Technological Advancement, 1965), and MacBride, The Automated State, chapters 2 and 3, for a contemporary summary of the great automation debate. See James Gilbert, Another Chance: Postwar America, 1945-1968 (Philadelphia: Temple University Press, 1981), pp. 175-181, for a historical perspective. A key document of the debate was Donald N. Michael, Cybernation: The Silent Conquest (Santa Barbara: Center for the Study of Democratic Institutions, 1962).

[16]On technological metaphor, see David Edge, "Technological Metaphor and Social Control," in George Bugliarello and Dean B. Doner, eds., The History and Philosophy of Technology (Urbana, IL: The University of Illinois Press, 1973), pp. 309-24, and Bernward Joerges, "Images of Technology in Sociology: Computer as Butterfly and Bat," Technology and Culture 31 (April 1990), pp. 203-27, especially footnote 6.

[17]Daily Californian, Sept. 15, 1965, p. 8, cited in William Rorabough , Berkeley at War: The Nineteen Sixties (Oxford: Oxford University Press, 1989), p. 18.

[18]Mario Savio, "Introduction" to Hal Draper,Berkeley: The New Student Revolt (NY: Grove Press, 1965), p. 2.

[19]Ibid, and The Free Speech Movement and the Negro Revolution, pp. 19-25. More generally, see Hal Draper, Berkeley: The New Student Revolt (NY: Grove Press, 1965); Abe Peck, Uncovering the Sixties: the Life and Times of the Underground Press (New York: Pantheon Books, 1985).

[20]Cited in Peck, Uncovering the Sixties, p. 28. The Free Speech movement made wide use of machine metaphors: the university was a "factory," a "machine," students "cogs." (See, for example, "We want a university," an anonymous brochure reprinted in Hal Draper, Berkeley: The New Student Revolt [NY: Grove Press, 1965], pp. 188-196. In this, they were, to some extent, picking up on widespread belief: the Free Speech Movement's arch-enemy, University of California's president Clark Kerr, had described the university as a Knowledge Factory, "a mechanism--a series of processes producing a series of results--a mechanism held together by administrative rules and powered by money." (Quoted in Hal Draper, "The Mind of Clark Kerr," in Draper, Berkeley, p. 204-5. As David Edge has noted ("Technological Metaphor and Social Control," p. 310-313), it's not uncommon for one metaphor to mean exactly opposite things to two groups of people. Edge suggests that this indicates basic agreement on the way the world works; I believe that was, to a large degree, true of the Free Speech demonstrators and the University administrators they opposed.
The most widespread use of the machine metaphor was in reference to the war in Vietnam: the Berkeley Vietnam Day Committee, successor (in some ways) to the Free Speech Movement, used as its motto: "Stop the War Machine." Jerry Rubin, Do It; Scenarios of the Revolution (New York: Simon and Schuster, 1970), p. 33. The "Yippie" branch of the `60s protest movement also used machine metaphors, but to a more radical end: they didn't care if "the machine" ran or not, as long as they weren't part of it. For example Peter Berg, leader of the Diggers, a San Francisco radical street theater group, told a 1967 Detroit meeting of the Students for a Democratic Society: "Don't let them

make a machine out of you, get out of the system, do your own thing." Or Abbie Hoffman, swearing at the boring New Left at the same meeting: "You guys are fags, machines." Free [Abbie Hoffman], Revolution for the Hell of It (New York: Dial Press, 1968), p.35 and 38.

[21]C. Michael Otten, University Authority and the Student; The Berkeley Experience (Berkeley: University of California Press, 1970), p. 6. On the belief that the United States was an organizational society, see, for example, Clark Kerr, et al., Industrialism and Industrial Man (Cambridge: Harvard University Press, 1960). For the university as a managerial bureaucracy, see Otten, University Authority, chapter 7.

[22]Eric Levine, "The Lines of Conformity," The Daily Californian, September 15, 1964, p. 12.

[23]Quoted in Draper, Berkeley: The New Student Revolt, p. 40.

[24]Draper,Berkeley: The New Student Revolt, p. 153. IBM, by far the largest computer manufacturer, became in itself a symbol of computerization and dehumanization. "Our lives," wrote one student, are "manipulated by IBM machines." [Michael Shaffer, "Brakes Next?," The Daily Californian, Feb. 26, 1965, p. 13]. Another referred to Berkeley's "allege `IBM atmosphere'." (Val Miner, "UC Time Sharing Computer," The Daily Californian, Nov. 21, 1966, p. 2.) The use of IBM as symbol of the modern age went beyond the Berkeley campus, of course: Tom Wolfe refers to the kids in Greenwich Village in the early 1960s "participat[ing] in discussions denouncing our IBM civilization." (Tom Wolfe, The Kandy-Kolored Tangerine -Flake Streamline Baby [New York: Farrar, Straus and Giroux, 1865], p. 307.)

[25]Rorabaugh, Berkeley at War, photograph caption after p. 50.

[26]"The Big U," The Daily Californian, April 7, 1964, p. 8.

[27]Larry Gartner, "Undergraduate Association to tune up the `Machine'," The Daily Californian, February 15, 1965, p. 9.

[28]Konstantin Berlandt, "Why FSM? Impersonality," The Daily Californian, February 16, 1965, p. 9.

[29]When registration lines moved slowly, students blamed it on the "IBM punch card duplicators." (Joel Shearer, "Reg Lines Move Smoothly," The Daily Californian, February 4, 1965, p. 13.)

[30]"Letter from Berkeley," Despite Everything, Special Letter, January 1965, p. 12; also in Draper, Berkeley, p. 225. Todd Gitlin, in his history of the 1960s, sums up--and dismisses--the Free Speech Movement as a protest against "suburban blandness, middle- class impersonality, and folding-spindling-and-mutilating universities." (Todd Gitlin, The Sixties: Years of Hope, Days of Rage [Toronto: Bantam Books, 1987], p. 164.)

[31]"The `Welcome,'" The Daily Californian, September 15, 1964, p. 12.

[32]"Registration, Lines, Both Begin," The Daily Californian, September 16, 1964, p. 3.

[33]"Letter from Berkeley," Despite Everything, Special Letter, January 1965, p. 12; also in Draper, Berkeley, p. 113. Some of these punch cards are illustrated on the album cover of the record put out by the Free Speech Movement, "Songs of the Demonstrations" (FSM-Records Dept., 1965).

[34]Konstantin Berlandt, "IBM Enrolls Phonies," The Daily Californian, October 20, 1964, p. 1. The notion of getting back at computers by punching new holes in the cards that came as bills was widespread: see, for example, John P. Troxell, "Don't point that Computer at Me," Stanford Graduate School of Business Bulletin, Autumn 1965, pp. 24-29.

[35]The technical prank--or "hack" as it's known at engineering schools--generally serves to reinforce the importance of technology than to subvert it; hackers are, for the most part, playing on the surface of technological systems rather than trying to undermine them. Phone hackers in the 1960s and 1970s and computer hackers in the 1980s are good examples of this phenomenon.

[36]Conversation with Susan Bradley, National Museum of American History, Smithsonian Institution, 1990.

[37]Phil Ochs, "I'm Going to Say it Now," from "I Ain't Marching Anymore" album, 1965.

[38]Mathew White and Jaffer Ali, The Official Prisoner Companion (New York: Warner Books, 1988), pp. 9-11. For a discussion of the phrase, see pp. 154-155. The rock group Iron Maiden turned the expression on its head in "Back to the Village": "I don't have a number, I'm a name." (Ibid., p. 132).

[39]Gitlin, The Sixties, p. 202.

[40]Doris Miles Disney, Do Not Fold Spindle or Mutilate (Garden City, NY: Published for the Crime Club by Doubleday and Co., Inc, 1970).

[41]Dolores Curran, Do Not Fold Staple or Mutilate! A Book about people (Notre Dame, Indiana: Ave Maria Press, 1970).

[42]Stan Rogers, "White Collar Holler," on "Live Between the Breaks" album.

[43]Women's magazines often had instructions on how to do this. (Interview, Sharon Darling, 1990).

[44] The Daily Californian, October 18, 1966, p. 14, and November 29, 1966, p. 11.

[45]This information is based on research by Sybil Milton of the United States Holocaust Memorial Museum in Washington, D.C. A punch card machine will be featured in that museum's exhibits. My thanks to her for calling this to my attention.

[46]The most recent place I've seen it used is on a 1990 mailing label from Microsoft, Inc., one of the largest manufacturers of computer software. The mailing label reads "Do not fold, spindle, mutilate, or

x-ray." Folding, spindling, or mutilating make no sense in this context, and so I feel sure that Microsoft is using the expression with an awareness of its historical echo, and with humorous intent. My thanks to Kenneth Lubar for bringing this label to my attention.